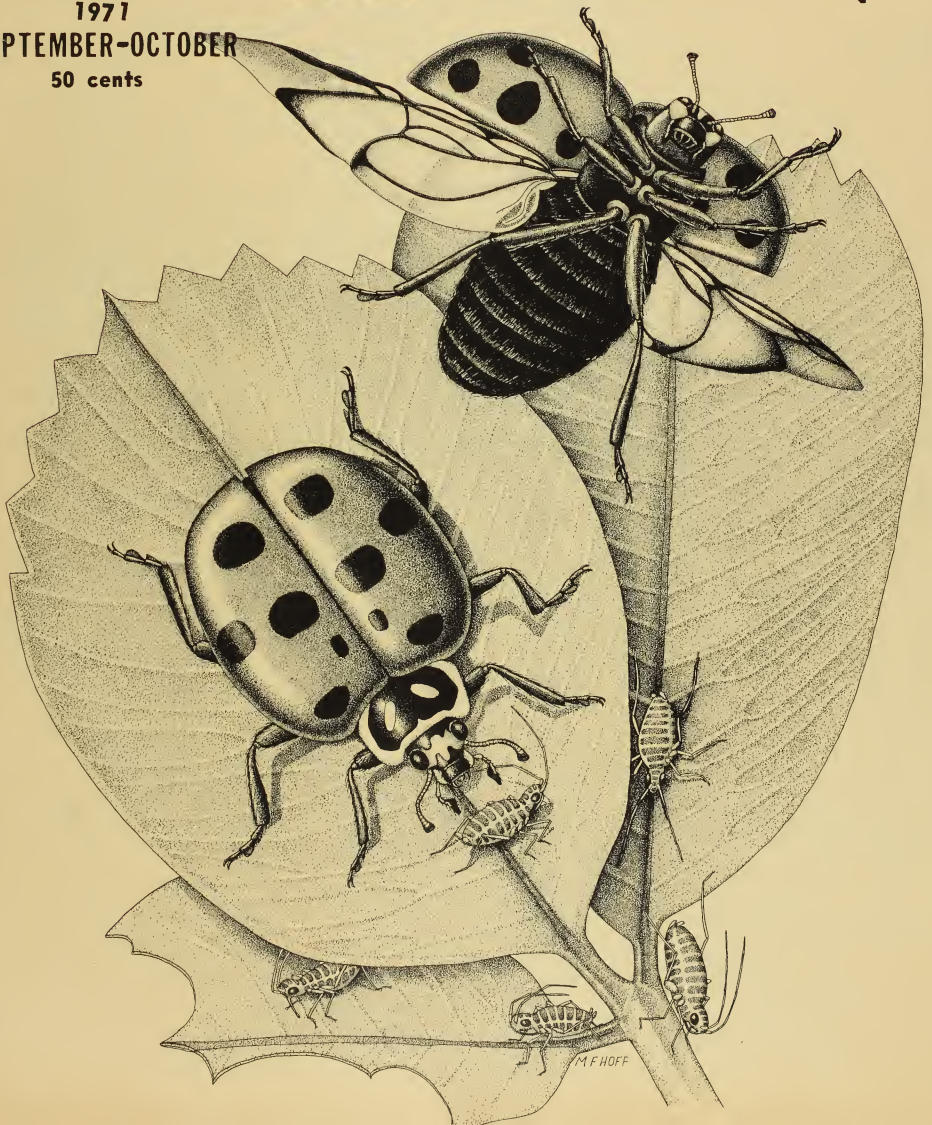
California GARDEN

1971
SEPTEMBER-OCTOBER
50 cents



Floral Events...

to enjoy

Floral Association general meetings are on the third Tuesday.

OCTOBER 19, 1971-7:30 PM "The Discovery and Growing of Plants" Paul C. Huchison
Paul Hutchison is a plant explorer who has been on three expeditions to the Andes in South America. He will speak and show slides on all phases of his explorations and bring plants which have been introduced and explain how to grow them. He is a fascinating speaker, an internationally known botanic writer, a Doctor of Botany, and is a recognized exotic plant grower. Don't miss this exceptional program. Bring guests. Open to the public.

to go

Sept. 4-5 (Sat. 9-6, Sun. 10-5) "The World of Shade Plants" American Begonia Society. Pioneer High School, Whittier. Open to the public. Free.
Sept. 5 (12-5) San Diego Fuchsia Society Open House. Floral Building, Balboa Park. Open to the public. Free.
Sept. 26 (12-5) San Diego Bromeliad Society Open House. Floral Building, Balboa Park. Open to the public. Free.
Oct. 2-3 Akebono Bonsai Society Show. Los Angeles Arboretum, Arcadia. Open to the public.
Oct. 3 (10-5) SAN DIEGO FLORAL ASSOCIATION OPEN HOUSE. Floral Building, Balboa Park. Historic items, plants, arrangments, etc. Old magazine sale. Refreshments. Open to the public. Free.
Oct. 24 (12-5) San Diego County Orchid Society Open House. Floral Building, Balboa Park. Open to the public. Free.
Oct. 29-31 Fall Flower Show. Los Angeles Arboretum. Arcadia. Open to the public.
Oct. 31 (12-5) "Mums" Convair Garden Club Annual Mum Show. Floral Building, Balboa Park. Open to the public. Free.
Nov. 7 (12-5) San Diego Cactus & Succulent Society Open House. Floral Building, Balboa Park. Open to the public. Free.

to tour

For reservations and information call Floral office 232-5762.

Sept. 16, 1971. Balboa shopping and fabulous boat excursion to see homes and gardens. $10.00 bus and boat. Leave Balboa Park at 8:30 AM, La Jolla at 9:00.
Oct. 29, 1971. Los Angeles Arboretum, San Gabriel Mission, and other gardens. $6.00 ($5.00 members.) Leave Balboa Park at 8:30 AM, La Jolla at 9:00. Will see Flower Show.
Nov. 17 (Wednesday) and Nov. 20 (Saturday) Sightseeing and shopping tour to Ensenada, Mexico. $9.00. Leave La Jolla at 8:30 AM, Balboa Park at 9:00.

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The San Diego Floral Association

Founded 1907 — Incorporated 1910

San Diego's Oldest and Largest Garden Club

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THE COVER

The cover is of Convergent Ladybugs (Hippodamia convergens, Family-Coccinellidae) and Aphids on Alfalfa leaves. This talented young artist, Marilyn F. Hoff Stewart, is a recent graduate of San Diego State College with a degree in Biology.

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marijuana

Barbara S. Jones

FEMALE PLANT

11530. 1Every person who plants, cultivates, harvests, dries, or processes any marijuana, or any part thereof, except as otherwise provided by law, shall be punished by imprisonment in the state prison for not less than one year nor more than 10 years.....*

*State of California, Narcotic Act, Health and Safety Code.

CANNABIS SATIVA is turning up in many gardens. Sometimes the seed just blows in, but evidence indicates that seeds are intentional "guests" in some gardens. One home owner reported a definite row behind some fruit trees on the back of his lot, an area subject to infrequent surveillance and cultivation. Local nurserymen are confronted with pieces of a "beautiful plant that just came up in back of some plants in my garden. What is it?" The Department of Agriculture inspectors are called to identify a strange plant. A San Diegan tells of climbing a tourist attraction to view the countryside and seeing a fine row growing between other plants on the grounds. A botanist doing some plant identification at a local park informed the resident Ranger of a nature path which was bordered with a foot tall crop. (The Ranger immediately weeded.) So, don't be upset if you don't recognize marijuana; you are not alone.

Marijuana (Marihuana) is a term in common and accepted use for the Indian hemp plant. *Cannabis sativa*, *cannabis sativa* is an attractive green annual that grows each year from seed in all of the temperate climates of the world.

KNOW YOUR ENEMY

The plant varies greatly in size and form and is influenced by soil, climate, density of planting, and source of seed. It is an upright plant which can reach 16-20 feet but usually is 3 - 6 feet in height. It has a characteristic odor which appears to be offensive to most animals and insects. It is covered with microscopic hairs and is slightly viscid (sticky) to the touch.

The plant is dioecious, male parts on one plant and female parts on another. Rare variants produce both flowers on the same plant. Under normal conditions the proportion of male and female plants is about equal, and it is impossible to tell one from the other until the flowers appear. The male plant dies after the pollen has fallen (3-5 months) but the female plant lives until the seed matures or it is subject to frost (4-6 months). It is wind pollenated. (Under controlled greenhouse conditions 90% of plants reversed sex. Evidence indicates that daylight and soil composition may be factors in the sex of the plant.)

ROOT: The plant has a tap root up to eight inches in length. It branches. New plants cannot be vegetatively grown from root pieces.

STALK: The stalk (or stem) has ridges (lengthwise flutes) which make it appear square. A cross section looks square and can be up to 2 inches in diameter (1/2 inch is usual). The green outer layer contains the fiber, hemp; inside is a woody material; and the center is pithy and generally

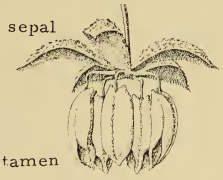
Barbara S. Jones, Editor of California Garden, is a graduate scientist (Botany) who has been in scientific laboratory research and is a former science teacher. In recent years she has been a scientific and engineering writer.

hollow. The stalk may reach 20 feet but usually is 3-6 feet tall (1 foot in a wild situation).

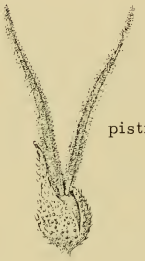
BRANCHES: Branches form immediately above leaves at nodes (joints) at 4-20 inch intervals. Branches are formed opposite in pairs which alternate at almost right angles. At the top of the plant the arrangement is alternate not opposite. Each branch grows similar to the stalk and flowers at the tip. Numerous branches are formed if the plant is not crowded; otherwise it branches only at the top.

LEAVES: The leaves are compound palmate with 5-11 leaflets (7 average). The whole leaf is about the size of a large hand, and the leaflets are 1 1/2 inches wide and up to six inches long and are pointed at both ends. The leaves are smaller with fewer leaflets near the top of the plant. The upper side has a "warty" appearance due to the presence of microscopic, bent, one-celled, non-glandular hairs. The hairs on the bottom of the leaf are longer and more pointed and give a "fuzzy" appearance. Each hair has a spheroidal cystolith of calcium carbonate at its base. Vein structure is very prominent, more so on the bottom of the leaf. When dried the leaves may be green, brown, or brown spotted.

FLOWERS: The plants look alike for 8-10 weeks until the flowers begin to form. The male plants have greenish-yellow to purplish staminated (male) flowers on long sprays at the tip of stalk and branches. Individual flowers have 5 sepals (outer part of floral envelope), 5 drooping stamens, and no petals. The flowers are very prominent. (See picture)



The inconspicuous green pistillate (female) flowers are hidden among small leaves at the ends of stalks and branches of the female plants. (See pictures.) In the individual flower one sepal folds around the ovary.



SEEDS: The seeds (fruit) are individually enclosed in hulls which are green and quite sticky to the touch. The seed is about the size of a large kernel of wheat but is nearly round. It is dark in color or distinctly mottled. The seed is divided into two segments by a lacy marked, sharp ridge around the greater circumference. The inside is a white, oily, meaty substance resembling coconut meat. Thirty to 50% of the seeds will germinate, and this percentage decreases over a three year period until none will germinate.

RESIN: A yellow resin is excreted by the plant, primarily on female flowers and on leaves, as a protection against weather. The drier and hotter the growing conditions, the more resin the plant forms.

THC, tetrahydrocannabinol, is the fraction of the resin responsible for pharmacologic activity. Chemical analysis of the resin has resulted in the isolation of over 30 Cannabinoids. Most are inactive, but one produces the hallucinogenic effects.

HISTORY

There is only one true hemp plant which is a member of the botanic family *Cannabinaceae* which includes the hops and marijuana. All other fibers called hemp (Manila hemp, sisal hemp, New Zealand hemp, etc.) belong to other botanic families. The plant *Cannabis sativa* is thought to have originated north of the Himalaya mountains. It has been known and used in Asia for many centuries. (It's common name is Indian Hemp.) It was known in Western Europe by

MALE PLANT

500 AD and was brought to the Western Hemisphere in 1545 (Chile). It was introduced into North America in 1645. By the 20th Century it was known throughout the temperate zones of the world.

Hemp is one of the oldest and most useful fibers. Twine, rope, artifical sponges, sail cloth, sand paper, and electrical insulation paper are but a few of its uses. A coarse, durable textile which was used on the covered wagons that "won the West" was made of hemp.

Hemp resin used in various forms as a drug for ailments is not new. Emperor Shen Nung of China described it in the herbal dated 2737 BC. Until the Marihuana Tax Act of 1937 it was available by prescription in the United States.

The plant has been and is part of many religious and magic ceremonies in various parts of the world.

For centuries it has presented a problem to society as a hallucinogen or psychoactive agent. The Arabic name, Hashish, means "dried herb", and the word "assassin" has come from the word Hasheshin, "hemp eater", and from Hassan, the 11th Century leader of a secret assassination cult. His full name was Hashishin. His religion forbade the use of alchohol, but he supplied his followers freely with hashish, a form of the hemp resin.

Recently marijuana usage has created serious problems in the United States. Other countries have had special agencies to deal with users of other substances derived from the hemp plant for many decades.

The World Health Organization has a special fund for research to develop a hemp plant which does not form resin or forms one that does not contain THC.

Since the passing of the Federal Marihuana Tax Act of 1937 it has been illegal to grow *Cannabis sativa* in the United States of America except with a license. Growing for use as a psychoactive agent or a hallucinogen has gone "underground." While researching for this article, I found fabulous reports on how to grow this plant under various conditions, even in a closet.

In our country marijuana is usually smoked. The odor is often described as "smelling like burning hay-but sweeter". It is eaten, and "spiked Brownies" are common in some circles. It tastes a bit like oregano.

Marijuana seeds cannot be purchased. Oregano is often sold as marijuana, so now the users (heads) will not buy a packet unless it contains seeds. These seeds are the ones turning up in gardens. In fact, the planting of seeds in isolated and unsuspected places is recommended in some underground papers.

If in doubt about that strange, beautiful plant in your garden, put a drop of dilute HCL (hydrochloric acid) on the leaf, and the calcium carbonate will make it fizzle.

Native Plants and Conservation Material

The Use and Misuse

Martha H. Rosenberg

YOUR GARDEN CLUB is putting on a Standard Flower Show. All rules and regulations have been carefully checked in the NATIONAL COUNCIL HANDBOOK FOR FLOWER SHOWS. But do the members really understand the regulations concerning the use of native plants and those plants on the California Garden Club's "Conservation List"?

There is a distinct difference between the use of native plant material and conservation material - at least as it pertains to Garden Club Flower Shows. The Natives comprise a rather long list, and they are all those wild flowers, ferns, shrubs, cactus, bulbs, and herbs you find growing in the woods, fields, deserts, sea shores, and most of those pretty and interesting things you see growing along the roadside as you whiz by in your car.

The leaflet published by the California Conservation Council at Santa Barbara lists between 200 - 250 plants that need our watchful protection. All plants are not equally scarce in all parts of California and, so, they say if you see only a few growing, don't disturb them; leave them to multiply. And they have divided their list into "Rare", "Less Rare", and "Fairly Abundant."

Plants we call "Natives" most frequently seen in Flower Shows are: *Manzanita, Toyon, Fremontia, Matilija Poppy, Ceanothus, Wild Buckwheat, and common Sunflower.*

The California Garden Clubs, Inc. says that branches, berries, and flowers from these native plants may be used under the following conditions: (1) If the plant material has been garden grown for two years and a card signed by the grower accompanies it, it may be used in the Artistic Division; (2) If dried material from Natives is picked carefully after seeds have been scattered in the area. Common material like *Dock, Teasel, Equisetum, and Cattails* are considered weeds and may be used without permission.

But let us consider another group of dwindling plants. There are 17 plants on this list, and they deserve very special attention. They are known as the "California Garden Club Conservation List. You can't get permission to use any one of these plants, either fresh or dried in the Artistic Division of a Standard Flower Show. They are forbidden absolutely in any Artistic Division. They may, with a permit from the State of California, be exhibited in a Conservation or Educational display.

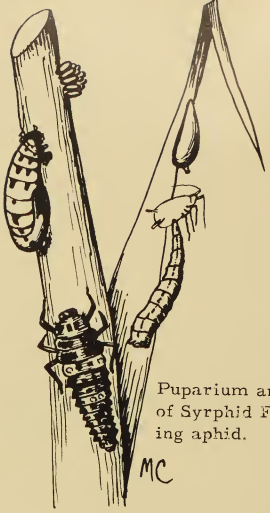
Most of you are familiar with *Desert Spoons, Yucca, Smoke Tree, Torrey Pine, Bristlecone Pine, Desert Holly.* You have seen these plants used in Flower Arrangements, either in fresh or dried condition. This should never happen! Get this Conservation List from the Flower Show School Committee of California Garden Clubs, Inc., and obey it. Remember there is a difference between the controlled use of "Natives" and the absolute prohibition of the 17 plants on the Conservation List in the Artistic Division of a Standard Flower Show.

Judges in a Standard Flower Show are going to try to be more critical in evaluating flower arrangements. If your arrangement is disqualified because it contains Conservation Material, don't blame the Judge for being too strict. Congratualte her (or him) for being watchful of our dwindling number of wild plants. And "Go, thou and do likewise."

Martha Rosenberg is a member of the Southwestern Judges Council of National Garden Clubs, Inc.

Aphid Predators in the garden

Marie Hoff Cox



Puparium and larva of Syrphid Fly eating aphid.

Eggs, pupa, and larva of convergent Lady Beetle

IN PAST YEARS "The only good bug is a dead bug" concept had overwhelming public acceptance. It is true that some species build up into pest proportions when their favorite food is spread before them over many miles of cultivated fields. It is also true that the vast majority of all insect species are not causing man any harm.

A great many insects are either predators or pollinators and are actually beneficial. Even the plant feeders are often fairly species specific and feed on native plants which to some people are only weeds anyway. The removal of the local plants eliminates all plant feeding species except those which can adapt to eating the exotic, non-native garden plants. Then out comes the insecticide and everything goes--pollinators, predators, and all.

With ecologic awareness garden predators will be encouraged to serve in biologic control. There are many garden predators which feed on insects including birds, lizards, spiders, and the many kinds of predaceous insects. The gardener can learn to identify and appreciate some of the more common beneficial species.

Aphids are common garden pests which have many conspicuous predators. Some of the more easily observed predators include Lady Beetles (Lady bugs) and their larvae, Lacewings and their larvae, and Syrphid Fly larvae. (See cover.)

Marie Hoff Cox has a Masters Degree in Biology from San Diego State. She is active with the Audubon Society.

Lady Beetles (Lady bugs) and their Larvae

There are some 3,000 species of Lady Beetles in the world, many of which are highly beneficila. The larvae and adults both eat aphids, scale insects, and mites. Although commonly called Ladybugs, they are actually beetles having chewing mouthparts and the first pair of wings entirely solid as opposed to true bugs which have sucking mouthparts and the first pair of wings half membranous. Lady Beetles are one of the very few insects affectionately accepted by most people. Every child has held a ladybug and chanted, "Ladybug, Ladybug fly away home ---", and watched as it invariably ran up a finger and flew off. In Nature Lady Beetles have voracious appetites and spend a great deal of time running up verticle surfaces such as blades of grass or iris leaves in search of aphids. When none are found, the Lady Beetle hurriedly flies off to another spot.

The most common species in North America is the Convergent Lady Beetle *(Hippodamia convergens)*. The adult has orange elytra (the hard, outer wings covering the body) with 12 black spots and a black thorax outlined in white with converging white lines in the center. There are also spotless forms of this species, but both males and females are more typically spotted. The female mates once and then lays between 200 to 500 small orange eggs in clusters on plants. These hatch out into stout bodied larvae which eat a variety of soft bodied, slow moving insects, particularly aphids. They have been observed to eat some 25 aphids per day. The mature black larvae with orange spots molts into an orange pupa with black spots and finally emerges as an adult. The adults have been observed to feed on over 50 aphids per day. During winter cold spells the adults collect in large numbers in mountain areas, hiding in rock or wood crevices or in debris such as old dead palm fronds or leaves. At lower altitudes in the Southern states they emerge in large swarms on warm winter days, only to return to hiding with night time or cold.

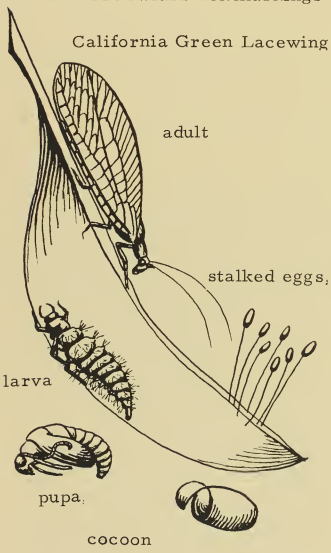
California Lady Beetle

Another common species with similar habits is the California Lady Beetle *(Coccinella californica)* which is red, spotless, and has a triangular white patch on either side of the thorax. It is common in the Pacific states from California to British Colum-

bia and also feeds heavily on aphids.

Vedalia Lady Beetle

In addition to the typical ladybugs, there are also numerous small black species of Lady Beetles which feed on mites and scale insects. The Vedalia Lady Beetle *(Rodalia cardinalis)* has historic significance as the first insect to be introduced beneficially into a country. It was introduced into Southern California in 1888 and 1889 to control the Cottony Cushion Scale. It is 2.5 - 3.5 mm. and red with black markings.



Lacewings and their Larvae

A second group of beneficial insects includes the brown and green lacewings of which there are many species. The California Green Lacewing *(Chrysopa californica)* is a delicate nocturnal insect commonly found at lights by night or hiding under leaves by day. It is 9 - 14 mm. long and has a conspicuous yellow stripe down the middle of the thorax. Males and females are similar in appearance and have chewing mouthparts. They are predaceous chiefly on aphids, but they also eat other insect eggs: Citrus red spider; clover mite; bean and pear thrips; European elm, orange, purple, and frosted scales; the nymphs of apple, grape, and rose leafhoppers; and mealybugs. The female begins laying eggs the day after copulation. The eggs are placed on foliage perched on top of long threads. The larvae resemble Lady Beetle larvae but are pale yellowish, smaller, and much more delicate. Instead of chewing mouthparts, these larvae have piercing "tongs" and suck the juices from their prey. When approaching the prey the jaws open widely until they can be clamped tightly into the prey. The prey is then held high in the air, one jaw holding it while the other turns it, until all parts have been sucked dry.

The larva may consume 200-400 aphids during its lifetime and then spins a small white cocoon and pupates inside. The pupa is quite mobile with chewing mouthparts. When it is ready to emerge, it cuts a cap off the top of the cocoon and crawls out. It sheds the pupal skin soon afterwards and emerges as an adult lacewing. There may be as many as six generations per year in warm climates. This species is found in the Pacific states from Washington to Baja California and eastward to New Mexico.

Syrphid Fly

Some of the Syrphid Flies form a third group of interesting aphid and scale predators. The larvae are typical fly maggots except that they are green and crawl about on iris and other plants feeding on aphids. Instead of shedding the last larval skin, the skin becomes hard and forms a protective puparium or shell around the pupa. The adults are called Flower Flies and feed on nectar and pollen, probably aiding pollination. They are marked black and yellow and frequently hover motionless in the air, hence their other common name of Hover Flies.

Oblique Syrphid Fly

Large Syrphid Fly

Two common species of Flower Flies are the Oblique Syrphid *(Allograpta obliqua)* which is found in North and South America. and the Large Syrphid *(Lasiophthicus pyrastri)* which is 11 - 14 mm. and whose larvae are probably the most abundant and beneficial of this group. Many of the Syrphids resemble wasps or bees and can only be distinguished as flies by the fact that they only have one pair of wings.

And, if there are any aphids left after these predators get through, the minute chalcid wasps of several species will probably lay their eggs in them. The wasp larvae eat out the inside of the aphid until it eventually becomes just a hard coppery or blackened skin. The wasp pupates inside this aphid skin and emerges later as an adult wasp.

And, if all those predators do not eliminate the aphid problem, a strong blast of water daily will wash away most of those remaining. Forget the insecticide, get aquainted with, and protect these natural predators!

Liquidambar "Sweet

LIQUIDAMBAR STYRACIFLUA is the so-called "Sweet Gum" of North America. It grows naturally as far North as Long Island in the United States; West to Southern Ohio, Indiana, Illinois, southeastern Missouri; and South to central Florida, eastern Texas, and southeastern Oklahoma. It also occurs in Mexico and Guatemala. It grows best on lowlands, some of which are flooded for long periods in the spring, attaining a height of 160 feet and a girth of 17 feet. It is widely planted in the United States as an ornamental. It is also grown in Europe, but not too extensively, because it likes more summer heat than is prevalent there. The leaves are maple-like and brilliantly colored in shades of red, orange, and yellow in the fall.

This article is printed with permission from the Saratoga Horticultural Foundation, Saratoga, California.

Liquidambar styraciflua wood is not strong enough for structural timber, and until recently was not used for anything but boxes and crating. The sapwood is white, and the heartwood is pink or light red. The heartwood is often called "Red Gum". All the wood takes a high polish and stains well. Modern methods of curing have overcome the warping that is inherent in this lumber, and now a large amount is used annually in cabinet work. In fact,

Liquidambar styraciflua 'Festival'. The variety 'Festival' is a handsome tree with a tall, narrow crown. In the autumn it bears a profusion of golden leaves touched with shades of apricot or peach.

Liquidambar styraciflua 'Palo Alto'. Brilliant orange-red autumn foliage and uniform pyramidal crowns are predictable characteristics of Liquidambar styraciflua 'Palo Alto'.

styraciflua Gum"

Typical maple-like leaves and prickly seed pods from a random specimen of Liquidambar styraciflua.

it may go to Europe as "Red Gum" and return as authentic copies of Liquidambar styraciflua 'Burgundy'. This variety is noteworthy because of its attractive deep green leaves, which turn to burgundy color in November or December and remain on the tree, fully colored, into January.

"antiques" in Mahogany, Rosewood, or Circassian Walnut!

There are three Liquidambar species which are still under cultivation and are the sole survivors of a group that was formerly large and widely distributed. Twenty extinct species have been identified from fossils found in rocks as far back as the Upper Eocene, some 55,000,000 years ago when Greenland had a sub-tropical climate.

Europe became acquainted with Liquidambar in an unusual manner. For years a certain gum arrived mysteriously in the markets in Constantinople. It gradually became known over most of Europe and was used extensively in smoking tobacco, for burning during religious ceremonies, and was listed in the pharmacopoeias. It was eventually determined that this gum was derived from *Liquidambar orientalis* and collected by wandering nomads in Southern Turkey. The secrecy surrounding its source was presumably an attempt to control the market.

When Alvar Nuñez Cabeza de Vaca arrived in Florida in 1528, he recognized the smell of Liquidambar gum in the tobacco the Indians were smoking. Thus, the tree in the United States that was the source of this gum was identified as Liquidambar, not because of any botanical features or knowledge, but only from the odor in the tobacco mixture that the Indians were using. Although this account was not published for some time, it was Europe's first introduction to the American Liquidambar.

The early settlers in the southeastern United States found the Indians using this gum medicinally. These early settlers likewise considered it beneficial for certain ailments, and its use spread extensively. The tree soon acquired the name of "Sweet Gum." The gum is still used as a base for salves, adhesives, perfuming powders, etc.

One of the reasons for the popularity *Liquidambar styraciflua* has as an ornamental tree is the brilliant coloring of the leaves in the autumn.

The Plant World

Paul C. Hutchison

THE PROTEA FAMILY *Proteaceae* in recent years has received a great deal of publicity in this country, and particularly here in the West, because of the large numbers of spectacular cut flowers beginning to reach the florists and hence the general public. All members of this family of plants are evergreen shrubs or trees of the southern hemisphere, with the majority of the 1500 species and 61 genera found in Australia and South Africa. Others occur in tropical Africa, Malaya, New Zealand, the Pacific Islands,and South America. Many of them have composite flower heads or inflorescences, which means that the "flower" is actually composed of many individual flowers clumped together closely. Cut, these may last three to six weeks in the vase, and many of them can be dried for permanent arrangement.

Historically the *Proteaceae* have been popular plants for the connoisseur gardener.Circa 1790 to 1840, about thirty species of *Protea* were in regular supply in English greenhouses. More than 50 were listed by Paxton in 1840. Even then they were considered difficult to grow. They were treated as subjects for the cool greenhouse, requiring constant moderate water supply, good drainage and ventilation, sunny exposure, acid soil. Some species prospered in the open in the Scilly islands.

In the nineteenth century many of the genera and species of both African and Australian *Proteaceae* were grown in California from San Diego to San Francisco. Hillside Park and the Dickson estate in Santa Barbara at one time contained many species, and some older plants still can be found in the area.

In the twentieth century plantings continued in the same regions, and records show that Huntington Botanical Gardens, San Marino, Golden Gate Park, San Francisco and the University of California Botanic Gardens, Berkeley, all flowered some of the species, and a few diligent gardeners developed private collections in favored localities. From these private growers a sparse production of flowers reached the market at fabulous prices.

In the last decade nearly a dozen growers have begun the commercial cultivation of these plants, notable in the northern part of San Diego County. The plantings have been remarkably successful, although not all have had equal success. In the last several years this success has attracted others, from San Diego to Santa Barbara, to the development of new commercial plantings. Perhaps 100 acres are at present devoted to the development of *Proteaceae* for the cut-flower market.

A by-product of this activity is the availability of many species for the home gardener and a great interest in them as garden subjects. They are not suitable subjects for container growing or for incorporation into an average garden. Still, many gardeners are willing to make a special place for them. It is to these persistent ones the following remarks on cultivation are directed. I will elaborate on some of the generalities in a later column.

1. Buy small plants when possible, as they transplant and establish more easily.

2. Buy and plant in the spring months and up to June, before hot weather hits, or in the fall after hot weather ends. They can be established and will grow during the summer months but require special attention then to survive.

3. Plant only in well-drained soil and never in a clay or adobe soil. Soils derived from decomposed granite are excellent. Slopes are ideal. Place them fully exposed to sun and wind.

4. Ideally the coastal strip to about 20 miles inland is suitable for most species. Where the climate becomes desertic they will not easily survive.

5. Young plants are susceptible to frost damage. Two to three year old plants seem quite hardy to light frosts to as low as 25° depending on time of the frost and on the species subject to it.

6. Most species prefer soil slightly acid, about ph 5. 5. There are exceptions.

7. Do not try to hold plants in containers. These are amongst the most difficult of container subjects, and they can die in several days if not handled properly. When you buy a plant, plant it now.

8. Plant in a shallow basin without soil additives and without

PHOTO BY BETTY MACKINTOSH

Protea obtusifolia

Paul Hutchison is internationally known as a botanist, writer, and plant explorer.

fertilizer. Mulch the basin with two inches of wood shavings or a comparable material to shade the young root system. Remember that high temperature on the roots, in the container or ground, can kill.

9. Water whenever dry while the plants are young, reducing watering as they get older to about once a week or every 10 days. They will tolerate overhead watering, but seem to respond better to irrigation.

10. Do not feed. The species seem mostly to be adapted to deficient soils, such as we have in Southern California. Some growers have tried feeding in minute amounts during the growing season. No harm seems to have been done. But we cannot assess the results as in most cases no control plots were maintained. At Tropic World none of the 75 or so species in the ground have ever been fed.

11. When available, cutting-grown plants are superior to seedlings. Generally they will flower a year sooner. Then, too, amongst those species with variable flower form and color, growing from cutting gives predictability for those characteristics. Cuttings are difficult to establish, hence the price is generally higher.

12. Excepting the most commercial species, few of the members of this family are available year in and out, since most of those reaching the retail outlets are surplus from the commercial growers. Thus, when a rare species is available you must either buy it or forget it for some years. It generally takes three to six years to assess the new introductions, and more plants may not be available until then. If the plants will not root from cutting, then future availability may depend on seed sources, and these are not predictable. Do not expect that any grower will continuously have in stock a particular species.

13. All growers have had many losses of these plants in the ground and especially in containers. In some years an entire crop may die. A few years ago one grower lost 50,000 seedlings. In other years we all have notable success. Thus availability will vary from year to year. Prices for young plants range from $2.50 to $5.00 and for older specimens from about $10.00 up. For those who fail with them, this is expensive. But for the gardener looking at the first flower produced on his own plant, it is not.

14. Finally, if you hold a plant in a container, never let the container get hot. Black plastic containers should not sit in the sun. High temperatures kill the roots. When watering in containers, do so thoroughly, twice if necessary, to provide thorough leaching so that no alkaline salts build up. Alkalinity can also kill these plants.

Growing these plants from seed or cutting will require a separate and detailed treatment later. For nurserymen stocking plants or those acquiring potted plants for holding, it is especially important not to allow the containers to heat up, and never to allow the plants to remain dry for long periods. Should the feeder roots die from drought, the plants die. On the other hand they cannot stand remaining soggy wet. During summer heat we hold them under 50% shade and water them 2 or 3 times a week, perhaps oftener if the plants are in small (2 1/2") pots. Watering should be thorough so that salts will leach through the container and not build up. Once planted in the ground maintenance becomes less of a problem, as indicated in the comments above.

In the next part of this series I will begin discussion of the family with the African genus *Protea*.

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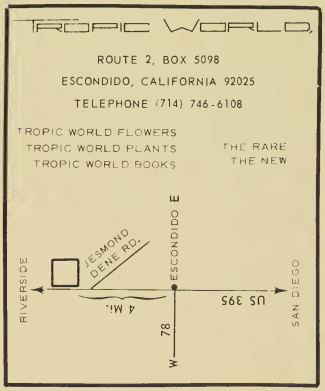


Of Mints: Cool & Spicy

Josephine Gray

PROSERPINE, in a whirlwind of jealous fury, changed the woodland nymph Minthé into the lowliest of plants, to be trodden on forever more by mortals. But Minthé was a survivor and has come up all over the world in moist meadows and gardens in nearly half a hundred variations, as Mint. Wouldn't it surprise and further infuriate Proserpine to know that Minthé's name is remembered in juleps and iced tea glasses when her own is only recalled by lovers of mythology and pomegranates?

I thought it would be interesting to have a bed solely for mints: They are so importunate that if they are anywhere near a flower bed they soon take over. Also they should never be grown where steer manure is used, for it gives them a fatal rust. So I made a six by eight foot bed with three of the sides raised and rounded nearly a foot; this I did so that the Pennyroyal planted all around them could crawl over and in time give a soft green raised border. If it creeps out into the path or into the underbrush, so much the better. Then I went all around my domain and gathered up the pots which had been growing in the lath house or in semi-shady spots on benches or in borders, and had a fine morning transferring them to their new establishment. Apple, Wooly Apple, Pineapple, and Orange Bergamot. Don't they sound enticing? Corsican, Catnip, and Peppermint. The Curly mint I still keep in a pot, for I have read that it gets so enthusiastic that it even pushes its own cousins out of bed. This bed was made in late February, and already they are all rioting in the half shade of a Brazilian Pepper tree in spite of the fact that I am told nothing will grow under a Pepper tree.

Pineapple mint is one of my favorites, and I have a great bed of it in another place in the garden where it can spread to its heart's content. In May it sends out fresh long shoots, some already beginning their delicate bloom. I cut great fistsful of it to bring in the house where it is fresh and fragrant for days. If it is grown in the shade, many of the leaves have a creamy fleck here and there, and frequently an entirely ivory leaf.

Apple mint *(Mentha rotundifolia)* has round light green leaves and is slightly hairy or wooly, and really smells faintly of apples. It is a pretty garnish for iced drinks or to use in an old fashioned bouquet. It will root easily in damp sand if you want to make little pots of it for gifts.

Orange Bergamot *(M. citrata)* always seems masculine to me. It grows sturdy and thick with smooth leaves, their very dark green painted over maroon so that a slight purple cast shows through. Their stiff square stalks are red-purple too. (All mints have square stems). This I use lavishly in bouquets and crush in my hand to smell as I walk around the garden; it is one of the spiciest and most aromatic of all the mints.

Given enough moisture mints don't seem to mind what sort of soil they grow in. Pennyroyal grows in my lawn, and on mowing days the air smells like a garden party. An old herbal says that Pennyroyal "quickens the brain by oft smelling" and also is "a good posie for students to oft smell." It also was used to repel fleas; in fact its botanical name, *pulegium,* is from the Latin, *pulex,* meaning flea. It was one of the strewing herbs brought to Britain by the Romans, and I am thinking that it might be good to put under cats' and dogs' beds.

Corsican mint has an intense fragrance. It is very tiny and would make a thick pungent ground cover, though I'm not sure it would take walking on. It is recorded that V. Sackville-West had a turf of it on a garden seat in her herb garden at Sissinghurst Castle. In Tudor times garden seats faced with brick or stone were frequently planted with low growing fragrant herbs.

In 1636 Gerard had much to say for the virtues of Catnip, and in 1971 an interesting little publication called "The Avant Gardener" still recognizes them. The aromatic oils in the leaves are insect repellent and "a spray made by soaking catnip leaves in water overnight is one of the best for flea beetles. Onion or garlic powder added to the spray greatly extends the range of repellency." As far as I am concerned, the only trouble with this is, that I don't know what a flea beetle is! However, I do know that mice do not trouble me in the lath house when I take the time to keep fresh stalks in water on various shelves and work benches. Aside from its various virtues, it is a beautiful plant with soft gray-green heart shaped leaves.

The Mint tribe is a large one, and as in most big families, there are endearing members, and then there are those characters who push and shove and try to take over your garden. All of them, however, are spicy and interesting; did Shakespeare call them 'hot mints'? Hot to the naked tongue perhaps, but in an iced drink, cool as green organza. Don't forget them this summer.

Josephine Gray researches, grows, and uses herbs. Her garden in Rancho Santa Fe is a delight.

Samuel Wood Hamill

HONORARY LIFE MEMBERSHIP in the San Diego Floral Association is given to "a person who has made outstanding contributions . . . and is deemed worthy of the honor." At the 1971 Annual meeting of the organization, Samuel Wood Hamill was voted an Honorary Life Member.

Balboa Park has been acclaimed as one of the best examples in the world of building and garden blending, and one cannot think of the beautiful Spanish-Colonial buildings in "The Park" without thinking of Sam Hamill.

The biography of Samuel W. Hamill is listed in the 1970-71 "Who's Who in America," but it in no way relates his personal involvement with Balboa Park and the struggle to preserve its "temporary" buildings and the Mexican and Spanish Colonial style of architecture.

Sam Hamill first saw Balboa Park as a boy of 12 at the 1915-16 Panama Pacific Exposition and obviously was very impressed. He attended San Diego State and received his AB degree in Architecture in 1927 from the University of California. He became a Fellow in the American Institute of Architects in 1957. His first active part in saving the park buildings was when he joined Miss Gertude Gilbert's "Save the Park Buildings" campaign which culminated in 1933 after the buildings were condemned and ordered to be torn down. The restoration forces were victorious and saved and repaired the buildings!

As a junior partner of Requa and Jackson, he participated in the designing of the House of Hospitality and the Rey Moro gardens for the 1935-36 Exposition. He participated in the rehabilitation of the other buildings and designed the "Casa de Tempo" and several other lesser structures for the 1935-36 Exposition as a partner of Jackson and Hamill.

As director of the City of San Diego, W. P. A. Design Office, he initiated work on the Del Mar Fairgrounds and the City-County Administration Building at the waterfront. The City-County Administration Building was to be one end of the "Cedar Street Mall" which was to extend from the southwest corner of Balboa Park to the bay. Sam worked on the promotion of the Mall Plan under the auspices of the San Diego Civic Center Committee.

In 1941 he studied the Food and Beverage Building under the auspices of a Civic Committee for a possible conversion of the building to a Civic Auditorium.

After World War II he designed the rehabilitation of the Conference Building and other park structures. He designed the Veterans War Memorial Building in the Park for the City of San Diego, too. In 1957 he participated in the design of a proposed Civic Auditorium and Theater for Balboa Park under the auspices of a Civic Committee formed by Mrs. Henry B. Clark. Next he participated in the "Balboa Park Citizens Study Committee" which carried over into the Bartholemew Plan for rehabilitating the Park, which is more or less the guiding plan for present Park planning.

Sam Hamill has been very active in "Casa del Prado" and participated in the preliminary design and plans for the reconstruction of the Food and Beverage Building. He actively participated in the promotional efforts of the San Diego Botanical Garden Foundation, The San Diego Floral Association, and other floral and garden oriented groups working to pass the bond issue for the Casa del Prado. He also worked with the "Committee of 100" founded by Mrs. Frank Evenson (Bea) to preserve the Spanish-Colonial architecture of the Park buildings and on the Casa del Prado.

Sam Hamill currently is working on the promotion of a program to reconstruct the three remaining "temporary" buildings of the 1915-16 Exposition: The Electric Building (Aero-Space Museum), the House of Charm (S. D. Art Institute, Hall of Champions, and Model Railroad), and the House of Hospitality. In his spare time he has done preliminary designs for the expansion of the Museum of Man.

Sam Hamill is "retired" but is still active in all things concerning Balboa Park and as the current President of the San Diego Botanical Foundation will be even busier.

We of the Floral Association are proud to have him as our newest Honorary Life Member.

Barbara Jones

PHOTO BY BETTY MACKINTOSH

Looking west along the edge of Mission Hills toward the ocean from the top of Mercy Hospital. At present these finger canyons leading into Mission Valley are open spaces. Shall we keep them open? Or shall we allow them to be filled with solid waste, or scalped and contorted into pads for buildings?

City Open Space

Helen V. Witham

OPEN SPACE MAY BE the "Wide Open Spaces" where the coyotes howl and the buffalo roam, but when we use the phrase in connection with city planning we are in a different frame of reference. There are kinds, sizes, and degrees of open space. In urban areas, such spaces may be:

1. Privately owned land, unused until some undetermined time in the future.
2. Land owned by a government agency, utility, or public institution, such as:
   Military institutions
   Tidelands
   Buffer zones around airports, artillery ranges, etc.
   Highway, street, or utility rights-of-way or easements,
   Natural or man-made ponds, lakes, reservoirs, and their shorelines; marshes and lagoons; Pacific Ocean
   Parks of all kinds, preserves, Sanctuaries
   Flood plains, in some cases
   Pueblo lands
3. Lands used for agriculture, from alfalfa to zinnias.
4. Privately owned recreation areas such as golf courses.
5. Steep slopes, canyons, mountain tops (publicly or privately owned).

Open space is a non-renewable resource, one that is scarce and growing scarcer within and close to our cities. When it is all used up, paved over, pushed around, or flattened out there is no place to go for more. The only way to have it is to keep it. There is an old phrase, "Elbow room"-- a desperate psychologic need in our ever more crowded cities. Open space is elbow room.

We need open space to rest our eyes and ears. Relief from glare, monotony, smoke, smell, and heat is afforded by trees, a view of sky, the informal shapes of plants, their changing patterns of flower and leaf and shadow, the birds, animals, and insects that live in them. Trees are natural air-conditioners, keeping the air beneath them cool and refreshing. Open space with trees and shrubs is an acoustic ceiling overhead, a sound deadening wall around us.

Helen Witham is a native San Diegan who has specialized in the study and cultivation of California's native plants. She is Associate Curator of Botany at the Natural History Musuem, and a consultant on Environmental Education Materials for San Diego County Schools.

A space filled with growing plants is a fresh air factory. While we are polluting the air, the leaves are out there making oxygen for us to breathe.

Open space is a place to learn to feel at home in the outdoors, a crying need of our increasingly urban population. The need is not always recognized but it is there, deep down, this need to spend some time with all those things in the world that we ourselves did not manufacture out of plastic or concrete, or whatever.

Only upon acquaintance with the natural world can any sort of concern for it be expected to develop. We cannot point a finger at someone and say "Okay, from now you are a Nature lover." This kind of love must grow, like any other kind of love, and must have space to grow in. Concern for environment, Nature study, ecologic awareness--choose your term--is an outdoor activity, and it cannot be learned out of books. Appreciation of Nature is, for many people, an acquired attitude. It takes on-the-job training and practice.

With the present emphasis on environmental understanding and the realization that this understanding is a matter of survival, there comes a need for places where it may grow, or where it may be trained. The understanding may come either by a soaking-in process, or by force-feeding. Either one requires space, outdoor space--open space.

Some of our open spaces should be just that--spaces. Places where imagination can roam; where a tire can be slung from a big tree; where kids can dig holes --these holes don't have to be anything, a good hole is a satisfying production in itself. Places to build little roads and tunnels for toy cars. Places where children can decorate the graves of dead beetles. Place to do nothing, nothing at all, with no one to bother you.

We must buy up park lands as early as possible and let them just sit if need be. There will be hue and cry, "Why don't they develop the parks we have before buying more?" The answer to this is obvious; later will be too late, they will not be buyable. Undeveloped parks are not unused parks, even if the largest use is resting the eyes. They are dollars in the bank, appreciating at a tremendous rate of interest.

The argument that undeveloped parks tend to collect trash is not a valid reason for putting off acquiring them. Our most highly developed and most sophisticated parks attract trash, by the ton, only there it is less obvious because it is picked up oftener, at our expense, or course. Undeveloped park space is good for the soaking-in process mentioned above because it tends to attract persons of a soakable age. This kind of open space is for informal, unsupervised outdoor recreation --"unstructured" is the word nowadays; for walking, photographing, birding, jogging, enjoying flowers and greenery. No vehicles!

Other open space is for the birds: In a sense we cannot "save" wildlife. We can save only wildlife habitats--places where birds and animals can find their necessary food and shelter. Trees, shrubs, undisturbed soil, rock outcroppings, ponds, bays, tidepools all are cradles and housing for the wild creatures that add so much color, sound, and motion to the world outside our doors.

Habitats may be either natural or artificial, but they are much easier to preserve than to create. There is no such thing as instant habitat creation. Time is needed before a balance is achieved. Whenever a place becomes suitable, wild plants and animals will move in. Birds, fish, ladybugs, gophers, and aphids, all are wildlife. Some we do not choose for close companions, but there is a place for them in the larger open space where they are a part of the total community. Worms in our lettuce, no! Caterpillars down there on the Wild Fennel in Florida Canyon, fine! One day they will be swallowtail butterflies. There is room for butterflies.

Then there are spaces used or set aside specifically for educational purposes and interpretation of the natural scene. We cannot have too many of these:

National and State Parks -- Torrey Pines, Cabrillo, etc.

Natural Parks -- minimal development, non-sports parks.

Study Reserves or Sites -- South Bay Marine Science Study Reserve, Miramar Vernal Pool Site, etc.

Areas surrounding youth camps.

Nature Trails on school grounds in National Parks, in city and County parks, and in private gardens.

Wildlife Sanctuaries and Preserves--Silverwood, etc.

Botanic Gardens and Arboreta:

Florida Canyon in Balboa Park.

Quail Graden in Encinitas.

Certain sections of Balboa Park, Presidio Park, and others should be in this category--the trees and plants are there, some shifting and labeling would be needed. . .

We use the phrases outdoor classroom, outdoor education, outdoor laboratory; all mean direct contact with Nature, under some sort of guidance. The key word here is contact--visual, aural, tactile. Birds in a picture are lovely, but they neither fly nor sing. That running stream on the calendar is attractive, but it makes no sound. Pressed plants in a herbarium are of value to a botanist and fascinating to an advanced student, but they are of little value or interest to all the thousands of us who are neither scientists nor serious students. Besides, they smell like mothballs. Slide pictures of wildflowers are a pleasure to look at, but they don't smell good either.

We have to go where the action is and where it's at is our open spaces.

Many schools are now coordinating outdoor experience with environmental studies carried on indoors. Fremont, a city school with limited space, has established an "Ecology Center" on a corner of the block in an area of a very few hundred square feet. Here there is a weather station with instruments, a vegetable garden, ornamental planting, even a stream, waterfall, and pool complete with fish and aquatic plants constructed upon a disused flight of concrete steps that no longer led anywhere!

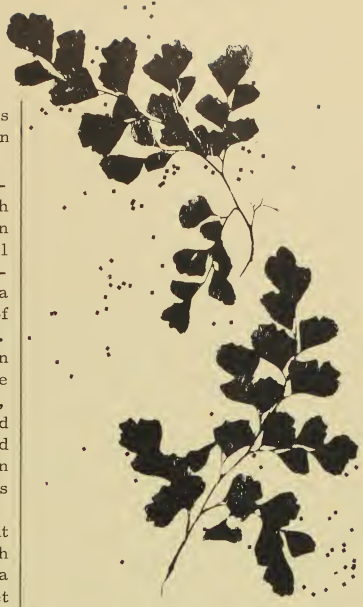
Sunset View School on Point Loma has a Nature Trail with labeled plants and a seating area (logs) where classes may meet in the open air, under trees. Murray Manor in La Mesa has a similar trail on a steep slope beside the playground. Plans are under way at Kate Sessions...

In Valley Center, seven acres adjoining the Elementary School are the site of a more ambitious project. All of these have involved cooperative effort on the part of the school and community.

Size is not a measure of value; one dandelion and a colony of ants in a sidewalk crack can constitute a Nature study unit. This, too, is a place for environmental awareness to grow.

Open space of some kind should be within reach of everyone. It may seem incredible to gardeners --but there are people who do not like trees... "They're all right in the country but I don't want to live with them." We'll just have to see that there are some nearby, and hope the children will begin to like trees. No one ever began liking trees until he met some and got acquainted with them. Let's make sure that everyone has his opportunity to meet a tree, or a bird, or a cricket.

When a forest burns - - - - - ! Use fire carefully.



Pressed Flower Cards

Bertha Benson

PRESSED FLOWER STATIONERY has become the vogue again, and a pretty hand-made card is more fun to send or to receive than a commercial card. Besides note cards, pressed flowers can be made up for place cards, book markers, bridge talleys, place mats, etc. There is no limit for someone with imagination.

Stationery can be made with just a few flowers or a few sprigs of grass, or in a larger design. The edges can be trimmed with pinking shears or left plain. Cards for birthdays or special occasions can be "gussied" up with ribbon, bows, glitter, etc. This is all a matter of personal choice. Colored petals can be used to depict birds, butterflies, houses, etc.

The photocopies in this article were made from cards. The one on this page is a maidenhair fern and the other is a pressed violet.

No Quail Garden sale would be complete without some of Bertha Benson's beautiful and famous pressed flower stationery.

DIRECTIONS

1. Select flowers to press during the year when they are in bloom. Thin, non-succulent types are preferable. Different stages of development of each flower makes a more interesting design.

2. Press flowers. I use the advertisement section of the newspaper to press my flowers or other plant material. (you could place the flowers between paper towels. Any paper that is absorbent will do.) I use thicknesses of newspaper above and below the ad section as a buffer to protect flowers. Don't use shiny paper.

3. Cover the entire stack to be pressed with something heavy, like bricks (or a carton of heavy Rose Society show records, which I used the last time I pressed. Worked fine.)

4. While the flowers are press-

ing, (at least a week or until you are ready to use them six months or a year later), collect the rest of the materials you will need:

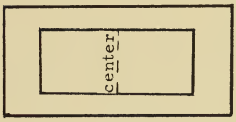
a. Any kind of a good white paste.

b. A small dish, cottage cheese carton or margarine tub. Diluted paste is poured into this container when you are ready to work.

c. Sponge rubber powder puff. This is used to dip into the diluted paste.

d. Paper and envelopes. Be sure the paper is cut to fit the envelope.

e. A piece of cardboard (does not have to be very stiff), approximately 11" x 8 or 9". Take a piece of your paper and mark the dimensions of the paper on the cardboard, including the exact center fold of the paper, and draw the lines with a pencil. Your paper should fit into this space, with the center line at the center of your note paper.



f. Roll of household wax paper.

g. Japanese rice paper. Art supply stores carry this very thin variety. (Not the wrapping kind or sumi painting type.) Face tissues instead of the rice paper may be used. I find the rice paper a little stronger and therefore a little easier to work with.

h. Paper clips.

5. Now you are ready to work:

a. Dilute a small amount of paste to be used that day: 1 part paste to 2 parts water.

b. Tear a piece of wax paper from the roll a little larger than the cardboard and turn about one inch of wax paper over the top edge of the cardboard, securing it with two paper clips. Keep in mind that this wax paper will be the underneath side of your finished card. As you are seated facing the wax paper on the cardboard, the right hand side will be the front or cover of the finished card, and this is where you place the plant material. The left hand side will be the back cover. The dimensions that you previously made on your cardboard will show through the wax paper so that you will know where the edges of your stationery will come. Here is where you assemble your design. Play with the design and decide exactly where you want the pieces of plant material placed as you will have to remove them again and smear paste all over this wax paper surface (both left and right sides) a little past your pencil lines. Spread the diluted paste over the wax paper. It may "bead" so spread it out again before applying plant material. Then replace the plant material on top of the paste on the right hand side (back cover) also.

c. Now take one sheet of the rice paper of tissue and carefully place it on top of the wax paper with plant material in place.

d. Dip the puff into the paste again and carefully and gently dob paste all over the rice paper. DO NOT RUB. If you rub, the wet paper will tear; so lift the puff to move it along and just dob the paste, especially well over the plant material.

e. Giltter may be sprinkled on the surface at this time.

6. Remove the paper clips, slip the cardboard out, and lay your masterpiece aside to dry, at least over night.

7. The next day, or next week, whenever you have time, place the dried design between two large brown paper bags, and with your iron set at "wool", press throughly. I cut the bottoms of the bags open which makes a smoother ironing surface. The bags can be used many times.

8. Now fold the inside stationery or paper that you are going to use and place it so that your dried and ironed design is exactly where you want it to come on the finished stationery. Fold the "wax paper-rice paper" around it; trim off all excess paper, both layers.

9. Put a small amount of full strength paste along the center crease of the stationery and a very small amount along the back side near the crease. I use a stiff artist brush to apply the paste. Insert and press together and let dry. Put the finished card and its envelope together.

This is a wonderful way to share your garden with friends.

Natural

II. Nature's Remedies;

INTEREST IN NATURAL INSECTICIDES and organic gardening is shown by the increasing number of writers turning to the subjects. Since the publication of the first part of this discussion of natural insecticides, the daily press has had several interesting articles, and horticulture magazines have stepped up their focus on the newly popular gardening practices.

In California Garden's previous issue, several natural insecticides and the mechanical practice of using a strong spray from the hose were discussed. Attention was centered on experiments in the writer's dahlia garden in which medical antibiotics, sugar, onions, garlic, pepper, and other substances were used.

In this concluding installment, special attention is paid to companionate planting as a deterrent of insects, with additional examination of Nature's remedies.

EXPERIMENTS (continued)

Epsom Salts: Use of epsom salts in other tests showed beneficial results and can be recommended. For several years a saturate solution with naptha soap (preferred) or detergent has been used once a season as a general cleanup spray about the time the dahlia plants start to form buds. The hose proportioner bottle is filled with the strained liquid. Discarded nylon stockings are used as a strainer to avoid clogging the spray gun. The epsom salts treatment first was tried on the recommendation of an old country gardener as a sure cleanup for a citrus tree infested with black aphids, ants, and scale. It worked. In addition to its value as an insecticide, the epsom salts adds a needed mineral to the soil; the magnesium sulphate is a good antedote for alkalinity of the soil. Old rose growing lore suggests use of two tablespoons around each bush each spring.

Sulphur: Sulphur used as a natural control of mildew on dahlia and other plants and as a dormant spray on fruit trees by some also is recommended (in light applications) to counteract alkalinity in the dahlia garden.

Naptha: Naptha and other milder soaps and detergents have wide support for other uses in the garden and around and in trees, and soaps generally are having a comeback with the downgrading of certain detergents in the campaign against pollution.

For instance, place a piece of Naptha soap in the crotch of a tree that might be attacked by borers, such as peach and dogwood. Sudsy water makes a good spreading agent for insecticides and for liquid fertilizers applied in foliar feeding. On a recent soap company television program, use of sudsy water on the lawn was recommended--using the product being advertised, of course. Such a soapy bath is believed to "relieve the tensions of the lawn," as well as chase the insects, it was said.

Aluminum Foil: Aluminum foil, the kind used in the kitchen, provides another mechanical method to deal with aphids and other flying insects. It is used right out of the box and placed in strips under vegetable or flower plants.

Place the shiny side up and anchor the strips around the edges with soil. The foil reflects the light, heat, and ultraviolet rays from the sun. The light and heat confuses and disturbs those insects that like the undersides of leaves: Aphids, white flies, mites, etc.

Caught in flight, the insects change course, or if they've already landed, the foil makes them too uncomfortable to stay.

Tests by agriculture scientists showed good results with gladiolus, roses, dahlias, nasturtiums, squash, and bean plants. The strips should remain in place for the season, also serving as a

Larry Sisk is a retired newspaperman and has been a dahlia hobbyist for many years.

Insecticides

Companionate Planting

Larry Sisk

mulch to keep plant roots cool. Moisture and fertilizers applied along the edges of the strips will sustain the plants.

The aluminum also can serve as an aid in setting out plants, particularly strawberries. Strip the entire row with the foil before planting. Then slit an X for insertion of each plant.

Beer: In combatting snails and slugs, several natural substances have been used instead of the arsenical pellets and flakes. Beer, either stale or fresh, placed in shallow can lids and left in suspect areas over night is reported attractive and lethal for the pests.

Ashes, Bone Meal, Salt, & Sugar: Wood ashes in strips and moistened, bone meal, table salt, and sugar also have been used against snails and slugs. Ashes and sugar also have been placed around plants to guard against cutworms.

Natural Substances: There also are those natural substances used in commercial compounds. These include nicotine sulphate (Black Leaf 40), pyrethrum, rotenone, ryania, and agricultural oils such as used in dormant sprays.

Tobacco leaves, or pieces of crumbled chewing tobacco, have been used successfully in planters and pots to discourage insects, and a few shreds in a piano discouraged moths from bothering the pads on the striking keys. Nicotine sulphate used as a spray will damage or kill tomato plants, and some gardeners say smoking near a tomato plant (among others) will result in damage to the plant.

Confucius Say . . .

The ancient Chinese were concerned about garden insects and sought effective means to combat them. Proof is included in the following, reprinted from "Organic Gardening and Farming:"

A translation from a 500-year old Chinese book on horticulture puts a practical Oriental slant on controlling aphids.

"The fragrance that makes flowers so attractive to man also attracts ants," begins the book's reasoning. "Ant droppings become aphids. To prevent the aphids, ants must be removed. To remove ants, place fresh turtle shells near plants.

"The ants will congregate on the shells which can be easily removed together with the ants on them. To remove aphids, use a fine brush to brush them onto peices of waste paper which can then be discarded in far away places."

Soil Enrichment: The organic gardening people strongly advocate prevention instead of cure, and say the best practice is to have a healthy garden with soil enriched by natural means and aerated by earthworms, with companionate planting, making plants grow so well they will resist insects and disease without help.

A soil enrichment practice is to rotary-till sweet clover or other green manure crops and decaying vegetable materials into the soil. In addition to helping the soil, it is said that the gas generated from the decaying materials will kill large numbers of nematodes and soil insects without disturbing the bacteria balance.

Biologic Control: Hand picking, biologic controls, use of traps, and importation and breeding of lady bugs, praying mantis, and other natural enemies of the destructive pests also are strongly advocated as substitutes for chemicals and poisons.

Companionate Planting: Companionate planting goes right along with use of the natural concoctions, organic substances, and physical methods. In addition to the marigolds (dwarf French),

garlic and onions already mentioned, many other common plants have been used since long before chemicals. Tansy and mint planted along foundations, walls and in garden borders are barriers against ants. Tansy with some others are good to plant with tomatoes and around trees. Geraniums, either in pots buried in the ground or planted in desired locations, are used with roses, tomatoes, and elsewhere in the vegetable garden. Chives, parsley, chrysanthemums, asters, coreopsis, cosmos and nasturtiums are used for general protection, and especially against aphids, Japanese beetles, rose chafers, squash bugs, wire worms, and bean and cucumber beetles.

Tomatoes growing close to asparagus will repel the asparagus beetle. Tomatoes also are said to repel the cabbage maggot, as also will mint, hemp, rosemary, or sage planted in an adjacent row. Tomatoes should not be planted near kohlrabi, and, according to some growers, tomatoes should not be permitted to grow near dahlias, because of dahlia susceptiblity to tomato virus. Of all the suggestions for companionate planting, marigolds are mentioned most frequently. It's probably because there's more supporting evidence.

A Dutch bulb grower found that by planting marigolds in his field about three months before setting out his crop that the fields were cleared of nematodes.

U. S. researchers reported that in test plots, those containing marigolds had 90 per cent fewer nematodes than similar plots without marigolds.

The researchers found that nematodes are eliminated or reduced in number within a three-foot radius of a marigold plant. The marigold roots give off a sulphur-containing substance--"root diffusates"--which discourages nematodes from multiplying and encourages them to seek the roots of other host plants at a distance.

Marigolds grown in quantity and plowed under as a green manure also are recommended by the researchers.

Planting of marigolds with beans has been practiced for a long time. Radishes also are an old favorite as companions for squash and other vegetables susceptible to beetle damage.

Moth Balls: In planting nasturtiums for repellant value or for their beautiful flowers, the gardener quickly discovers that nasturtiums themselves are especially attractive to black aphids which gather under the leaves by the thousands. Keep the nasturtiums clean with a supply of moth flakes or a moth ball under each plant.

Moth balls also have been used in planting holes with tomatoes and dahlias to discourage nematodes and soil insects, and placed in fruit trees they serve as a bird repellant. In or on the ground the mothballs evaporate very quickly and should be replaced frequently for full effectiveness. A half dozen or so balls placed together in small pouches made from discarded nylons and hung at intervals in the trees usually last for the duration of the fruit ripening period.

Other Methods: Other methods to protect the fruit include use of fur pieces to resemble cats, and toy snakes hung here and there.

On visiting that certain San Diego dahlia garden, don't be surprised to find a realistic wooden snake, a small rubber alligator, pieces of old furs and a Davey Crocket cap in the fig and peach tree, and garlic, onions, marigolds and whatever growing here and there.

Don't look too closely; you might see aphids, caterpillars, and even nematodes, too.

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THE BOOK SHELF

We are now exchanging publications with The State Nikita Botanical Garden (The All-Union Academy of Agricultural Sciences of the USSR Named after V. I. Lenin). This is in the Crimea and by reading some of the summeries of articles in the two publications which we have received, it appears that they have some of the same soil, water, and climatic problems that we do. It is written in Russian, but the Table of Contents and a summary at the end of each paper are in English.

Summaries which might be of interest to our readers are:

Methods of Dahlia Clonging In The Crimea
Sofronova A. I.

Different methods of preparing cuttings of Dahlia varieties and periods of cuttings rootening in different soil substrata were examined. It is observed that the largest yield of cuttings is secured by cutting off a piece of bough immediately under foliar node (without so called "heel"-a widening basal section of bough or stem). The best substratum for cuttings rootening is soil mixture of one portion of soddy soil and of two portions of sand. Rootage of cuttings without "heel" in any soil substratum took much more time than rootage of cuttings with "heel".

Influence of Mineral Manure On Content of NPK, Sugars and Activity of Some Biochemical Processes in Petals of Essential Oil Rose
Shubina L. S., Mashonavo N. S.

Study of influence of mineral manure on content of NPK and sugars and on activity of some biochemical processes in petals of essential oil rose showed that applying nitorgen and phosphorus manures increases content of essential oil in flowers, intensifies oxidoreduction capacity of petals. Applying of potassium decreases yield of oil and increases biosynthesis of sugars.

SUMMER MULCHING

IN HOT WEATHER, many shrubs in the garden depend upon a mulch to protect them from the sun and high temperatures. (A mulch is any loose material used to cover the soil for protection against extremes in weather.) It may also supply nutrients to the soil, and can aid in controlling weeds, explains the California Association of Nurserymen.

Hibiscus, Hydrangeas, Fuchsias and Princess Flower are but four of many summer blooming shrubs that will appreciate an "air conditioning" at their bases with a mulch. It keeps the roots of the shrubs cool to promote blooms.

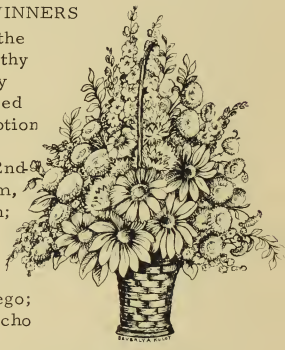
Mulching is a must for acid-loving plants with shallow roots. Azaleas, Camellias, and Rhododendrons like moisture in the soil, and the surface soil from which they feed dries out readily in summer heat.

Roses will benefit from summer mulching. It conserves water and controls weeds.

There are several different mulches: Peat moss, leaf mold, processed wood bark or shavings, and commercially-formulated mulches which combine organic material for effective mulching. Let your nurseryman aid you in selecting the proper one for the soil, climate, and plants in your garden.

A two-to-three inch layer of mulching material around the base of shrubs will pay off in more luxuriant plant production. The gardener benefits, too, since weeding and watering duties are minimized.

FAIR COLORING CONTEST WINNERS



Our judges Beverly Kulot (the artist who did the original painting for our January cover), Dorothy Marx, and Alice Clark selected the best entry from each age group. From these they selected five winners who will receive a year subscription to California Garden.

WINNERS: 1st-Darlene McLellan, San Diego; 2nd-Caroline Williams, La Mesa; 3rd-Kevin Gilliam, Rolling Hills; 4th-Carnie Selby, Imperial Beach; 5th-Karen Litchfield, Las Vegas, Nevada.

HONORABLE MENTION: George Rivera, San Diego; Michelle Mendoza, San Diego; Marvin McLellan, San Diego; Michelle Stanley, San Diego; Tammy Brown, El Cajon; Kathy Haflinger, Rancho Santa Fe.

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Nibby Klinefelter

BONSAI SOCIETY

Masao Takanashi

Now is the time

to take advantage of autumn as the second best time for repotting--although Spring is by far better for most.

to repot flowering quince or Japanese apricot; Autumn is definitely the time.

to maintain watering as usual.

to spray foliage with water in the evening, particularly deciduous, when winds are dry.

to fertilize for trunk and root system development, using food high in phosphorus and potassium.

CACTUS & SUCCULENT SOCIETY

Jim Stalsonburg

Now is the time

to enjoy the last of the late bloomers, but

to consider slacking off watering in order to harden plants for the cooler winter season.

to keep moisture level fairly high, however, during hot Santa Anna winds to prevent sunscald.

to fertilize for the last time plants in outdoor locations, using a product low in nitrogen but high in potassium and phosphorus, which seems to aid in hardening process of the summer-formed tissue.

to use pre-emergent herbicides against winter weeds sprouting.

Nibby Klinefelter is a compulsive gardener who loves plants. She is editor of Espinas y Flores but finds time to contact all of our affiliates for this Calendar of Care.

CAMELLIA SOCIETY

Althea Hebert

Now is the time

to fertilize with cottonseed meal, sprinkling lightly over surface; to water in well to avoid attracting flies.

to mulch with fir-bark or damp peat moss so that surface feeding roots are undisturbed.

to make certain that drainage is good, for they don't like wet feet.

DAHLIA SOCIETY

Mildred Middleton

Now is the time

to spray to prevent mildew and spider mites.

to continue watering until the first of October, then to cut down on water.

to feed with potash only, promoting root growth.

EPIPHYLLUM SOCIETY

Dr. J. Walter Troxell

Now is the time

to "overhaul" your epis,

to open the plant so that light can penetrate--don't let them have too much wood.

to remember that they bloom on second year and older blades, and like to be somewhat potbound.

to use a rich loose soil 3-to-1 of a good planter mix and leaf mold, fir bark, or redwood compost.

to add a little well-seasoned steer manure, about a 3" pot to a bucketful of soil mix, and a sprinkle of bone meal.

FUCHSIA SOCIETY

Frankie Ivy

Now is the time

to continue care as indicated in July and August.

to step up feeding with nitrogen the first of October.

to keep plants groomed.

IKEBANA INTERNATIONAL

Loretta Crocker

Now is the time

to set out plants from the nursery of Japanese ornamental Kale for arrangements.

to feed Poinsettias with 0-10-10 or other low-nitrogen fertilizer for larger blooms.

IRIS SOCIETY

Thelma Carrington

Now is the time

to set out the previously divided plants of bearded iris.

to set out new spuria and Louisiana iris, keeping them well watered until established.

to divide spuria, Siberian, Japanese, and Louisiana iris--after the Santa Anna winds in late September or early October.

to plant Dutch iris bulbs either in the garden or in pots.

to pull off dead leaves and, to trim leaves where leafspot appears. (It is hard to avoid leafspot as the wind carries the spores.)

to irrigate rather than water overhead.

LA JOLLA GARDEN CLUB

Alice Mary Clark

Now is the time

to prepare rich beds of well drained soil in September for planting bulbs in October.

to try Anemones, Ranunculas (plant right side up after soaking), Ixias, Freesias, Sparaxis and baby Glads as well as new varieties of Daffodils and Narcissus.

to set out plants of Iceland Poppies, Violas, and Cinerarias for a warm start in early September.

to broadcast seeds of California Poppies and to plant winter Sweet Peas.

to stake Chrysanthemums and feed until buds show color.

to divide Daylilies, Shasta Daisies, Coral Bells, and other perennials.

to allow Hydrangeas to die back completely before cutting back.

to make cuttings of Geraniums and Pelagoriums--soft wood is better for quicker rooting, and they need to be cut back.

to heed the last call to plant tropicals--Hibiscus, Bougainvillea, etc.

to prune and thin out brittle trees so the wind can go through.

to plant evergreen trees in October.

to choose Liquidambar trees by color as they vary so, as do the Acalypha shrubs.

to keep Gardenia foliage green with iron chelates.

to treat yourself to the gray-leaved Crassual falcata with the scarlet bloom as everyone should have it!

ORCHID SOCIETY

Ione Maloney

Now is the time

to acknowledge that Orchids are on summer vacation.

to continue watering and general fertilizing.

ORGANIC GARDENING

P. F. 'Kay' Canady

Now is the time

to start a new lawn or to rejuvenate an old one.

to dig in all the weedseed-free, well-rotted steer manure and other humus available to a depth of 5-6".

to level and roll (and roll and ROLL) with a full tank of water in roller until surface is smooth and even.

to lightly rake and sow seed--don't be stingy.

to roll seed in with tank half full.

to cover seed lightly but completely with redwood compost.

to water well and CONTINUE to keep moist.

to cut when 2-3" high with SHARP mower. (Dull blades will jerk out new sprouts.)

ROSE SOCIETY

Esther Barksdale

Now is the time

to clear away twiggy growth from the center, opening the plant.

to remove blind shoots that looked good but failed to bloom.

to add mulch if necessary.

to use iron chelates to green the foliage.

to irrigate before and immediately after, as well as when giving another booster shot of rose food.

to also work in two tablespoons of blood meal.

to continue watering to a good depth--better to irigate than water overhead.

to evaluate new roses in bloom and to consider adding some "canned" roses.

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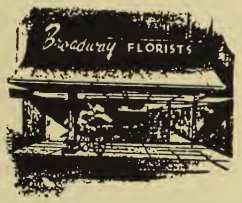

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Bamboo Baskets for Ikebana

Marvelle Elson

BASKETS ARE OFTEN USED AS CONTAINERS for flower arrangements with inserts that hold water. The arranger strives to create a naturalist design which can be tall, medium, or short, but always one that compliments the basket. Flat baskets are used for morimono (collection of things) arrangements. A great many schools of Ikebana teach the proper way to use a basket as part of the required course study.

There are several sources of bamboo art in Japan. The main development was through the medium of folkcraft. ("A pattern of 'Ajiroami' which is one of the weaving techniques used in bamboo art is seen embossed on the surface of the early Yayoi earthenware. This must indicate that the 'Ajiroami' technique of woven or knitted wares was used during this period (100 B.C. through 300 A.D.)" Buddhistic artifacts used in ritual were introduced to Japan from China. (Some of these ancient artifacts can still be seen at museums and on the altars of old temples in Nara.) During the Edo, Meiji, and Taisho periods many bamboo art works of the Tang, Sung, and Ming dynasties were brought to Japan from China. Japanese artists improved their own techniques through these exquisite samples.

The tea ceremony, another phase in Japanese culture, helped to make bamboo art popular. Not only are bamboo utensils used, but "Chabana"-the small, quiet, dignified arrangement of flowers used to compliment the tea ceremony-is done in basket containers.

A design for a Japanese basket is as carefully planned as an exquisite flower arrangement; and the basket becomes a work of art through the technique, discipline, and artistry of the weaver.

Marvelle Elson is Vice-president of the San Diego Chapter of Ikebana International and a teacher in the Ikenobo School of Ikebana.

Ed. Note: Many baskets are made of split bamboo but other material is used for baskets, too.

A dark, red-brown, antique Japanese basket on a polished base holds a single branched stem of corkscrew willow for the height good proportion demands. It also balances the three-flowered stem of brilliant red amaryllis. Three aspidistra leaves, one curled for interest, add not only contrasts of color and form but complete the design by serving as transition between the line material (willow) and the focal material (amaryllis). This basket has a liner with a pinholder permanently fastened in it so that holding plant material in place is simple. This arrangement took only a few minutes to make.

A hand-woven beige basket on a natural-colored base has as liner a tin can which once held tomatoes. A pinholder has been fastened into it with paraffin. A twist of dried asparagus vine, the same beige as the basket, is attractive wrapped around it. Three slim stems of fresh bamboo and five white iris complete a quick and easy arrangement. Purple iris would have provided better color contrast but were not available.

This square Japanese picnic basket of brown and beige, beautiful by itself, is lovely with two stems of clivia, four tall leaves of dark flax and a bunch of galax leaves beside the flowers. The dark brown of the galax matches the brown of the basket and provides pleasing contrast with the bright orange clivia. Notice that one flax leaf is bent to follow the straight line of the basket's handle. One way to improve design is to repeat the lines of the container with plant material. A large cup pinholder which holds water is all the mechanics needed.

Basket Arrangements Are Easy

Dorothy Marx

Photos by Ruth Penprase

BASKETS AND FLOWERS, like love and marriage, go together. We have all heard of May baskets, bought baskets of pansies, gathered flowers in baskets and probably arranged bouquets in baskets.

Dorothy Marx is a National Garden Clubs Judge with Masters Certificate. She is the Chairman of the Southwestern Judges Council.

Once a liner or inner container which holds water is provided and a pinholder is set into it, the open nature of most baskets make them easy containers with which to work. Often a handle helps set the design by providing an easy line to follow, and the woven texture is invariably handsome contrasted with plant material.

While many baskets are inexpensive and casual, they can be elegant and valuable as the three antique baskets illustrated are. They are as suitable as containers for sophisticated and stylized arrangements as for the bouquets we often associate with baskets.

It's

"WHEN THE FROST'S ON THE PUNKIN, and the fodder's in the shock," describes an era of rural America, sung by a favorite folk poet. These are by-gone days. There are still harvests and pumpkins, but they are no longer a way of life, and pumpkins are down to two uses: Hallowe'en jack-o-lanterns and pie. They were so much a staple in the diet of the Pilgrims that a ditty of the 1630's expressed the boredom and need:

"We have pumpkins at morning and pumpkins at noon,
If we did not have pumpkins, we'd be undoon."

The vaudeville "artists" and cartoonists reduced the noble and revered pumpkin to its present limited status by characterizing the country bumpkin as one from Punkin Holler or Punkin Center. This gave the staple vegetable a connotation of "hickness" which the average countryman newly arrived in the city to work in the factory wanted to avoid. He did not relish any association with the "hayseed." It relegated one of his native foods to oblivion except for pie and decoration.

The origin of the pumpkin is somewhat obscure. The Spaniards found them in South America and Mexico. The Pilgrims were introduced to them by the Indians in New England. They were on the menu of that celebrated first Thanksgiving, probably as a cooked vegetable, for sugar and flour as we know it were unknown, but turkey and Pumpkin pie have become traditional in our feast because of the foods first used on that day. Evidence is found in drawings and literature that the Chinese had pumpkins over 2,000 years ago. The name appears to have come from the Greek word, *pepon,* which means sun dried. So one can say that the pumpkin is sort of international and is grown all over the world in any climate that has three months of hot weather.

Planted in hills or build-up rows in June or July, pumpkins are ready for harvest in October and November. The vines should be shriveled and the stem of the pumpkin hard and dry, the rind deep orange and tough as a log. Then they are ready to cut and put in a dry, cool place where they will keep for months.

They belong to the family of cucurbits which include squashes and melons. The hard shell winter squashes are often used the same as pumpkins, but they are not the same and can be distinguished by their stems. The squash has a tender green, fleshy, round, and prickly stem; the pumpkin is woody, hard, and marked by ridges. Also, the pumpkin has a distinctive taste, flavor, and aroma peculiar to it alone. It is naturally a vine vegetable and not suited to the average backyard garden, for it will take a space of ten to 20 feet. The hybridizers have obligingly produced a bush type that produces small fruits that take up not more than four feet. They do not produce more than four or five fruits and come in the Tricky Jack and Cheyenne varieties. Check the seed package to see if it is vine or bush before buying. The vine types take to canyons and slopes, making a dramatic spectacle as they loop down, producing their golden-orange balls. Children adore them, for few plants respond so quickly to warmth and water. In a week or ten days after seeds are planted in a hill of rich earth, two little green ears pop out. In no time leaves become enormous, big yellow blossoms appear with a little green knob showing before the blooms drop off. The knob gets bigger and soon turns to gold, then orange. It grows more slowly from then on, but there is something to watch for three months as ten to 20 fruits evolve.

There are 25 known cultivated varieties of pumpkins, but only a few specialty growers indulge in more than three or four. The market for jack-o-lanterns at Hallowe'en has developed a medium sized, deep orange, sold almost solely for that purpose. These are the "jacks". The small sugar or New England Pie called also Sugar and Spookie are the sugars grown for eating. The big ones up to 100 pounds are derived mostly from the Connecticut Field, a longer one sometimes

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Rosalie Garcia, our adventurous vegetable gardener, researches, grows, uses and loves plants.

Pumpkin Time

Rosalie Garcia

almost pink in color with less flavor used in canning.

In California the greatest commercial acreage for canning and sales to supermarkets is produced in the San Joaquin Valley. For canning they are often mixed

with squashes, which is probably one of the reasons for the decline in demand for the pumpkin. Locally our commercial growers are in Lakeside and Valley Center, hot and dry climates, ideal for pumpkins. The Bates Bros. of Valley Center have been growing pumpkins for 50 years and sell about 30,000 pounds. After the truckers haul out the best, children are invited in to choose their very own jack-O-lantern at a nominal price. They are mostly of the "jack" type.

Mr. H. C. Johnson of Imperial Beach goes in for the big ones. He is aiming at producing a 200 pounder to enter the local competition. Super Seed, developed by a Glendale firm that guarantees pumpkins weighing 150 pounds, has been planted. By feeding the one fruit he has left on the vine with a mixture of milk and honey, he hopes to add an extra 50 pounds. One-fourth honey and three-fourths milk in a basin in which he immerses the stem as soon as it is developed into a curl is absorbed and enriches the growth. His brother in Idaho almost made it to 200 pounds. Imperial Beach is near the ocean where there are cooling breezes, which he is aware of, and he is trying to protect his vine which has just about taken over his garden.

The Robert Whiteds of La Mesa are watching what is evidently a sport as it develops on their slope. Last year they grew assorted squashes and pumpkins. This year they allowed a volunteer to grow and now have a white pumpkin. It has the skin, stem, and shape of a pumpkin, but it is white.

Another pumpkin, the cashaw, with a crooked neck and green stripes on a mottled white background, is grown more for animal food than for human eating. It is not sweet. Because of its prolific and easy growth, it is a kind of staple in the South, planted in corn fields. After the corn harvest, the hogs are turned in and flourish on the cashaws over which they chomp and grunt to their heart's content.

Before the days of factory farming when the "home farm" dominated agriculture and a way of life, the pumpkin was a staple all over the United States. Harvested in October and November, it had many uses. It was both a vegetable and a dessert, often used without any but its own sugar. The farm wife knew it tasted better cooked slowly on low heat. She chopped it into chunks with an ax, put it in a deep iron pot with a little water, and hung it on the side of the fireplace and let it simmer all day. It became soft, deep orange, and sweet with all the strings dissolved. It takes that slow exposure to heat to break down the carbohydrate molecules, and turn them into sugar, and meld the minerals and oil into the true pumpkin flavor, which the squash does not have. She plopped a spoonful of the soft orange mass onto a hot griddle and served a browned cake with the meat. She kept out some and mixed it with milk, eggs, spices, raisins or nuts, and baked a custard. She even put some of it in a pastry shell and baked a pie. The custard pumpkin pie is really a result of French innovation, and it is the one we most commonly know. During the wars when sugar was scarce, she thinned some of this mixture and made a syrup for biscuits and breads.

Later as many different nationalities came to our shores they adapted their own cookery to the use of the pumpkin, which had also been introduced into Europe. The Italians took the blossoms, dipped them in batter, and fried them. They roasted the pumpkins with meat stuffings. The Mexicans had for ages used them in many ways. The one we most often see is the candied chunks in the Mexican markets. They boil the chunks until they are almost tender, drop them into a sugar

syrup, and let them cook down to a candied consistency. Delicious! In Japan one of the dramatic uses of the pumpkin is to cut off the top of a small one, remove the seeds, and roast it whole until almost tender. It is then filled with a seasoned custard and baked until the custard is set, an hour or so. After cooling, it is sliced for a most delectable dessert.

We who eat almost exclusively the custard pumpkin pie rich with cream, eggs, spices, and pastry crust (a wedge is about 400 to 600 calories), are almost ignorant that it can be a good food. A cup is only about 80 calories and full of more vitamin A than oranges or carrots in comparable amounts. It is carotene, the Vitamin A ingredient, that makes the color of the pumpkin, and although a distinctive flavor, it has almost the same food value as a potato and can serve as a substitute. It is low in fat and protein, high in calcium, so including it in a winter diet is a wise choice. The seeds roasted are high in food value, 150 calories an ounce and make good snacks or lunch food.

One other use of the pumpkin came to my attention through my two maiden aunts who lived on our ancestral acres in Arkansas. They rented the 40 acres across the creek to two enterprising young fellows who appeared in the community. My aunts never saw them after the deal and did not expect to see them until after the harvest, and they trusted their tenants. Along in October an old man who lived in a cotton shack near the creek came up the hill and reported strange "goings on" in the corn patch across the creek. Specifically there was a lot of hollering and "carrying on", and a fire burning every night. My aunt reported this to the Sheriff who confounded them with startling news. These fellows had planted pumpkins in the corn (usual practice), but just before the pumpkins were fully matured, they plugged them and filled them with sugar, putting the plug back and allowing them to ferment. Then they brought in a crude still and were making hard liquor, the potency of which was the cause of the revelry that had aroused the old man.

And now pumpkins are just pie and jack-O-lanterns!

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First Thursday, Floral Building, 7:30 p.m.
Pres.: Mrs. J. Wells Hershey 443-2329
12505 Royal Rd., #52, El Cajon 92021
Rep: Mrs. J. Otto Crocker 582-5316
4749 Redlands Dr. SD 92115

MEMBER CLUBS

CONVAIR GARDEN CLUB
First Wednesday, Floral Building, 7:30 p.m.
Pres.: Henry Boyd 264-1283
6581 Broadway, San Diego 92114
Rep.: Mr. Charles O. McCarty 298-1746
3566 Mississippi, San Diego 92104

COUNTY CIVIC GARDEN CLUB
Meets every Thursday, 12m to 1 p.m.
Garden House, Grape and 101 Civic Center
Pres.: Mr. James Saracino 239-9511
1600 Pacific Highway, San Diego 92101

IKEBANA INTERNATIONAL CHAPTER No. 119
Fourth Wednesday, Floral Bldg. 10:00 a.m.
Pres.: Mrs. James Ard 276-6398
3021 Karnes Way, San Diego 92117

LA JOLLA GARDEN CLUB
First Tuesday, 1:00 p.m., St. James Hall
7776 Eads Ave., La Jolla
Pres.: Mrs. Harley Cope 459-7688
6608 Avenida Bizarro, La Jolla 92037

LAS JARDINERAS
Third Monday, 10 a.m. Homes of members
Pres.: Mrs. Fred Hage 222-0033
3510 Elliott St., San Diego 92106

MEN'S GARDEN CLUB OF SAN DIEGO CO.
Fourth Thursday, Floral Bldg., 7:30
Pres.: Mr. Wm. Spann 278-2410
4101 Mt. Bigelow Way, San Diego 92111
Rep.: Dr. J. W. Troxell 282-9131
4950 Canterbury Drive, S.D. 92116

ORGANIC GARDENING CLUB
Third Friday, Floral Building, 7:30 p.m.
Pres.: Paul Canaday, Sr. 264-6702
303 No. 47th St., CD-4, San Diego 92102

POINT LOMA GARDEN CLUB
First Friday, Floral Bldg., 10 a.m.
Pres.: Mrs. F. G. Wood 224-3051
750 Albion St., San Diego 92107
Mrs. Harold Skinner
3530 Lowell Street, San Diego, Calif. 92106

SAN DIEGO BONSAI SOCIETY, INC.
Second Sunday, Floral Bldg., 1-5 p.m.
Pres.: Lester Jaudsoud 479-1639
201 Lake View Ave., Spring Valley, Calif. 92077
Rep.: Mrs. Frances J. White 224-1122
4854 Del Mar Ave., S. D. 92107

SAN DIEGO BOTANICAL GARDEN FOUNDATION, Inc.
Second Thursday, Floral Building
P.O. Box 12162, S. D., Calif. 92112
Pres.: Samuel W. Hamill 296-2605
4467 Ampudia St., San Diego 92103

SAN DIEGO CACTUS & SUCCULENT SOCIETY
First Saturday, Floral Building, 1:30 p.m.
Pres.: Ione Hubner 444-3439
231 W. Park Ave., El Cajon 92020
Rep.: Mrs. Peter Klinefelter 276-6517
2201 Fairfield Street
San Diego, Calif. 92110

SAN DIEGO CAMELLIA SOCIETY
Second Friday, Floral Building, 7:30 p.m.
Pres.: Mrs. Althea Hebert 466-3389
8845 Country Club Rd., Spring Valley 92077
Rep.: Mrs. Deena Montmorency 297-2625
4349 Florida St., S.D. 92104

SAN DIEGO COUNTY DAHLIA SOCIETY
Fourth Tuesday, Floral Building, 7:30 p.m.
Pres.: John C. Wright 583-2548
4905 Twain Street, San Diego 92120
Rep.: Mrs R. M. Middleton 296-3246
3944 Centre St., S.D. 92103

SAN DIEGO EPIPHYLLUM SOCIETY
Third Wednesday, Floral Bldg., 7:30 p.m.
Pres.: Wm. H. Nelson 298-3349
4253 Maryland Street, San Diego 92103

SD-IMPERIAL COUNTIES IRIS SOCIETY
Meets 3rd Sunday, Floral Bldg., 2:30 p.m.
Pres.: Mr. Edward Pasahow 453-4145
6235 Syracuse, San Diego 92122

SAN DIEGO COUNTY ORCHID SOCIETY
First Tuesday, Floral Building, 8 p.m.
Pres.: Mr. Henry Marosz 583-0334
6122 Rockhurst Dr., San Diego 92120
Rep.: Mrs. Ione Maloney 479-7742
3058 Bonita Mesa Rd., Bonita, Calif. 92002

SAN DIEGO FUCHSIA SOCIETY
Second Monday, Floral Building, 8 p.m.
Pres.: Mrs. Frankie Ivy 283-2767
3984 32nd St., San Diego 92104
Rep.: Mrs. Mildred Murray 753-7756
467 East Fulvia St.
Encinitas, Calif. 92024

SAN DIEGO ROSE SOCIETY
Third Monday, Floral Building, 8 p.m.
Pres.: Mrs. Harry B. Cutler 466-7579
4671 Lane, San Diego 92115
Rep.: Mrs. Felix White 264-4440
5282 Imperial Ave. S.D. 92114

SOUTHWESTERN GROUP, JUDGES' COUNCIL CALIFORNIA GARDEN CLUBS, INC.
First Wednesday, Floral Building, 10:30 a.m.
Pres.: Mrs. John Marx 459-6417
1216 La Jolla Rancho Rd., La Jolla 92037
Rep.: Mrs. Roland S. Hoyt 296-2757
2271 Ft. Stockton Dr. S.D. 92103

S. D. TROPICAL FISH SOCIETY
Second Sunday, 7:30 p.m.
Pres.: Bill Thompson
735 Jersey Ct., San Diego 92109 488-3576

OTHER GARDEN CLUBS

ALFRED D. ROBINSON BEGONIA SOCIETY
Third Friday, Homes of Members, 10 a.m.
Pres.: Miss Myrle Patterson 224-1572
4310 Piedmont Dr., S.D. 92107

BERNARDO BEAUTIFUL & GARDEN CLUB
First Wednesday, 1:00 Seven Oaks Community Center, Bernardo Oaks Dr., Rancho Bernardo
Pres.: Mrs. John P. Delany 487-1054
12089 Pastoral Rd., San Diego 92128

CARLSBAD GARDEN CLUB
First Friday, Conference Room, Public Library 1:30 p.m.
Pres.: Mrs. Floyd Anderson 729-7610
3595 Catalina Drive, Carlsbad 92008

CHULA VISTA GARDEN CLUB
Third Wednesday, Chula Vista Woman's Club, 357 "G" St., 1:00 p.m.
Pres.: Mrs. Wm. Hedenkamp 422-2978
515 Second Ave., Chula Vista 92010

CITY BEAUTIFUL OF SAN DIEGO
Pres.: Mrs. Raymond E. Smith 488-0830
4995 Fanuel St., Pacific Beach 92109

CORONADO FLORAL ASSOCIATION
Meets 1st Tuesday, Red Cross Bldg., 1113 Adella Lane
Pres.: Mrs. George L. Heap 435-3929
620 First St., Coronado 92118

CROSS-TOWN GARDEN CLUB
Third Tuesday, Knights of Columbus Hall, 3827 43rd St., S.D. 92105, 8 p.m.
Pres.: Mr. Charles Williams
3865 41st Street, San Diego 92105 284-2317

CROWN GARDEN CLUB OF CORONADO
Fourth Thursday, Red Cross Bldg, 1113 Adella Lane, 9:00 a.m.
Pres.: Mrs. John A. Copeland 435-S742
1121 Alameda Blvd., Coronado 92118

DOS VALLES GARDEN CLUB
Meets 2nd Tuesday, Alt. Pauma Valley and Valley Center 1:30 p.m.
Pres.: Mrs. E. L. Lamoureaux 745-0243
31643 Oak Glen Rd., Valley Center 92082

EL CAJON WOMAN'S CLUB (Garden Section)
1st Monday, 9:30 a.m. Members homes.
Chairman: Mrs. W. L. Robinson 444-7162
1612 Granite Hills Dr., El Cajon 92020

ESCONDIDO GARDEN CLUB
3rd Friday, Woman's Club, 240 So. Bdwy., 1:00 p.m.
Mrs. Charles Younger 746-5109
368 Eldorado Drive Escondido 92025

FALLBROOK GARDEN CLUB
Last Thursday, Fallbrook Woman's Clubhouse, 1:30 p.m.
Pres.: Mrs. Clair Acker 728-2341
1061 Riverview Dr., Fallbrook 92028

GREEN VALLE GARDEN CLUB, POWAY
Meets 4th Thursday, 9:30 a.m. Homes of members
Pres.: Mrs. Charles E. Chandler 487-2203
13627 Jackrabbit Rd., Poway 92064

GROSSMONT GARDEN CLUB
Second Monday, 10 a.m.
8155 University Ave., La Mesa
Pres.: Mrs. Ray Moore
7393 La Mesita Place, La Mesa 92041 466-6943

HIPS and THORNS
Meets at Members' Homes Quarterly.
Pres.: Mrs. Eugene Cooper 295-7938

IMPERIAL BEACH GARDEN CLUB
3rd Tuesday, Imperial Beach Civic Center, 1:30 p.m.
Pres.: Kathy Rolfes 424-7487
1228 Seventh St., Imperial Beach 92032

LAKESIDE GARDEN CLUB
3rd Monday, Lakeside Farm School, 7:30 p.m.
Pres.: Mrs. Lucy May Carender
9282 Riverview, Lakeside 92040

LA MESA WOMAN'S CLUB (Garden Section)
3rd Thursday, La Mesa Women's Club, 1:00 p.m.
Pres.: Mrs. Val Sexton
9144 Johnson Ave., La Mesa 92041 466-0047

LEMON GROVE WOMAN'S CLUB
(Garden Section)
First Tuesday, Lemon Grove Woman's Club House, 1 p.m.
Pres.: Mrs. Hal Crow 466-3330
3850 Quarry Rd., La Mesa 92041

MISSION GARDEN CLUB
Meets First Tuesday, Asbury Methodist Church, 4102 Marlborough Ave., S.D. 92116, 8:00 p.m.
Mrs. Vera Eimar 477-5344
1129E 16th St., National City 92050

NATIONAL FUCHSIA SOC., ENCINITAS BRANCH
3rd Friday, 7:30 p.m., Home Federal Bldg., Encinitas
Pres.: E. Grove Teaney 726-3728
114 Natal Ave., Vista 92083

NORTH COUNTY ROSE SOCIETY
1st Tuesday, 7:30 p.m., John Landis Park (Cedar & Lewis) Oceanside
Pres.: Mr. Charles Horton 746-3711
Rt. 3, P. O. Box 743B, Escondido 92025

NORTH COUNTY SHADE PLANT CLUB
Second Sat., 1:30 p.m., Home Federal Bldg., Encinitas
Pres.: Jim D. Campbell 278-4372
2903 Greyling Dr., S.D. 92123

O. C. IT GROW GARDEN CLUB
Second Wednesday, S. Oceanside School Auditorium, 7:30 p.m.
Pres.: Mr. Michael J. Hardick 722-3583
1409 Division, Oceanside 92054

PACIFIC BEACH GARDEN CLUB
Meet second Monday, 7:30 p.m. Community Club House, Gresham and Diamond Sts., Pacific Beach
Pres.: Mrs. Arthur Berthelsen
1434 Grand Ave., San Diego 92109 274-6081

POLOMAR CACTUS & SUCCULENT SOCIETY
Third Saturday, 1 p.m., Palomar College Foreign Language Building, Room F22
Pres.: Mr. Mitchell Beauchamp 477-8669
1841 E. 16th St., #B, National City 92050

PALOMAR ORCHID SOCIETY
3rd Thurs., 7:30 p.m., Vista Rec. Center, 160 Rec. Dr., Vista
Pres.: Mr. Herbert Crothers 724-4278
740 Mesa Ave., Vista 92083

POWAY VALLEY GARDEN CLUB
2nd Wednesday, 9:30 a.m. "Haley's," 13519 Poway Rd.
Pres.: Mrs. Paul L. Bemiller 748-2572
12508 Buchskin Trail, Poway 92064

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230 Quail Garden Drive, Encinitas, Calif. 92024
Mrs. M. J. von Preissig 286-8818
5071 55th St. San Diego, Calif 92115

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Second Tuesday—Club House, 2:00 p.m.
Pres.: Hubert Larson
P.O. Box 782 Rancho Santa Fe 92067 756-1926

SAN CARLOS GARDEN CLUB
Fourth Tuesday, San Carlos Club, 6955 Golfcrest Drive
Pres.: Mrs. Douglas Oldfield
6372 Lake Levon, San Diego 92119

SAN DIEGO BROMELIAD SOCIETY
1st Thursday, 8 p.m. Porter Hall Clubhouse (8425 Univ.), La Mesa
Pres.: Wm. E. Knerr, Jr. 279-1134
7178 Hyatt, San Diego 92111

S.D. CHAPTER CALIF. ASS'N NURSERYMEN
Second and Fourth Thursday, 7:30 p.m.
Pres.: Mr. Del Johnson 422-5198
366 Broadway, Chula Vista 92010

SAN DIEGUITO GARDEN CLUB
Third Wednesday, Seacoast Savings Building, Encinitas, 10 a.m.
Pres.: Mrs. Dorothy Reavell
1222 Santa Fe Dr., Encinitas 92024 753-4908

SAN MARCOS GARDEN CLUB
Pres.: Mr. E. C. Pferdner
1221 San Julian Dr., San Marcos 92069 744-0226

SAN MIGUEL BRANCH, AMERICAN BEGONIA SOCIETY
Second Wednesday, Porter Hall Clubhouse, La Mesa (8425 University) 8:00 p.m.
Pres.: Mrs. Peter P. Lee 239-3169
1852 31st St., S.D. 92102

SANTA MARIA VALLEY GARDEN CLUB
Second Monday, Ramona Women's Club House, 5th and Main, 9:30 a.m.
Mrs. Troy Reese 789-1334
Rt. No. 1, Box 514-H, Ramona 92065

SANTEE WOMEN'S CLUB Garden Sec.
Pres.: Mrs. John Ainsworth 448-3342
844 Fanita Dr., Santee 92071

VISTA GARDEN CLUB
First Friday, Vista Rec. Center 1:00 p.m.
Pres.: Mrs. Mildred Kessler 724-5594
P. O. Box 44, Vista 92083

VISTA MESA GARDEN CLUB
Second Tuesday, 7:30 p.m. Family Association Center
Pres.: Mrs. Clarence Gominger
7487 Blix St., San Diego 92111 277-1285

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